Cost efficient SiC processing

Epigress AB is to cooperate with Infineon Technologies to mass produce process technology for the manufacturing of SiC Schottky Diodes. Infineon will use Epigress' production-qualified multiwafer VP2000HW SiC Hot-Wall Planetary Reactor technology for their in-house epitaxial needs.

"It is a strategic goal of Infineon to further penetrate the high power device market with SiC devices having an excellent cost/performance ratio. To achieve this, besides low cost high quality SiC wafers, an excellent cost efficiency in all processing steps is the key," stated Dr. Roland Rupp, project leader SiC device development, business group Automotive & Industrial at Infineon Technologies AG. "After SiC wafer costs this is the second most important cost factor influencing SiC device manufacturing expenses. When enlarging our SiC product spectrum to higher blocking voltages in the near future, it will become even more important. The combination of our process know how and the equipment related skills of Epigress will lead to significantly reduced processing costs and thus will be another milestone on our cost reduction roadmap for SiC power devices."

JMAR wins additional funding

JMAR Technologies Inc, developer of advanced lasers, collimated plasma lithography systems and semiconductor production services, announced that its Systems Division in Burlington, Vermont has been awarded an additional $3.4m in funding from the US Government Naval Air Warfare Center. The funding is to procure the sub-100nm geometry next-generation lithography (NGL) masks needed to produce advanced semiconductors using JMAR's new CPL system.

The award, funded by the Defence Advanced Research Projects Agency (DARPA), extends by one year the mask production program started in May 2002. The X-ray masks procured through this program are used to develop and produce high-performance GaAs MMICs, for use in high-performance military and commercial radar, communication, automotive, high-speed internet and space-borne applications.

JMAR subcontracted the IBM Microelectronics Division in Essex Junction, Vermont to produce and deliver masks through the duration of this phase of the contract, which ends March 31, 2004.

Ronald A. Walrod, JMAR's president and CEO, said: "We are very pleased that DARPA and the Naval Air Warfare Center have expressed their continued confidence in our CPL technology by extending this mask production contract. I also want to express my sincere thanks to Vermont Senator Patrick Leahy and his staff for their support of the CPL programme, which has benefited greatly from their efforts, and to IBM for their exceptional work on this program to date."

Air Products supplies Shanghai Lanbao

Air Products has signed an exclusive multi-year agreement to supply its ultra-high-purity white ammonia product and other electronic specialty gases to China's Shanghai LanBao Photoelectric Materials Co Ltd.

Air Products will also install its new Gasguard High Flow System, for bulk specialty gas supply (BSGS), at Shanghai LanBao's production facility. The system and ammonia products will be used for production of blue and green GaN-based LED epi-wafers.

"Shanghai LanBao is on track to become one of the leading suppliers of blue and green epitaxy and chips in China," said Mike Hilton, Air Products' VP for Electronic Gases, Equipment and Services. "We look forward to working with them under this agreement and are committed to helping them meet the growing market demands for their products,"

Aixtron finds business in Russia

Sigm Plus Co Ltd, located in Russia, has chosen Aixtron's AIX 2400G3 reactor for the manufacture of GaAs based materials. This will be the fourth system Aixtron has installed in Russia to date.

Michael Kovalenko, general director of Sigm Plus, said: "We have been observing the domestic market for some time now and our experience has shown us that by using Aixtron's 15x2" high throughput production system, we will now be able to ramp-up Gallium-Arsenide production, at an efficient operating cost level and with the strong back-up in service and process support that we need."

Aixtron will also install an AIX P6 MPCVD (Microwave Plasma Chemical Vapour Deposition) reactor, for the deposition of diamond films, at Gycom Ltd, Russia.

The system will be operated at the Institute of Applied Physics (IAP) Russian Academy of Science, the scientific partner of Gycom. Gycom produces gyrotrons, which are high power microwave sources typically used in industrial heat treatment and heating of fusion plasmas. The CVD-grown diamond discs will be used as gyrotron windows.

The gyrotron project forms part of Russia's participation in the ITER (International Thermonuclear Experimental Reactor) project, the aim of which is to develop electric power stations based on nuclear fusion.

Dr. Anatoly Vikharev, from the Institute of Applied Physics, said: "Diamond technology is a key to the successful realisation of our gyrotron project."

Paul Hyland, Aixtron's president and CEO, added that: "Gycom is addressing a very promising future technology and we are glad to have an opportunity to participate as a supplier and co-operation partner."

Applications for diamond technology include: heat sinks for electronic devices, such as laser diodes and microwave power transistors.